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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			EXAMINER ARNBERG, MEGAN C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,785	Applicant(s) WEHNER, JOCHEN	
	Examiner MEGAN ARNBERG	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 1-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/23/2007; 4/16/2007; 3/16/2007; 3/21/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1-16 are objected to because of the following informalities: There is a typographical error in line 17 of claim 1; “andlor” should read “and/or”. Also, “fibre” should be spelled “fiber” in claim 4 lines 4, 5 and 8. “Colour” should be spelled “color” in claim 6 line 12. “Poiyoi” should be spelled “polyol” in claim 13 lines 3 and 5, claim 14 line 3, and claim 15 line 3. “Polytetraxnethylene” in claim 13 last line, should be spelled “polytetramethylene”, as in Table 1 of the written description. The letter “l” in claim 15 line 3 should be the number 1. Appropriate correction is required.

The claims are objected to because they include reference characters which are not enclosed within parentheses. Reference characters in claim 9 lines 4 and 5, claim 10 line 4, claim 11 line 4, and claim 16 lines 4 and 5, corresponding to elements (A1), (A2), and (A3) recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claims 3 and 4 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitations of claims 3 and 4 are directed to the polyurethane gel coat used on a synthetic resin,

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which is the intended use of the composition found in claim 1. See MPEP 2106 and 2122. Intended use statements are language that suggests but does not require steps to be performed in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-16 provide for the use of a two-component composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. See MPEP 2173.05(q).

Claim 2 line 3, claim 5 last line, and claim 6 line 13, limitations involving DIN tests appear, but there are no particulars of these tests found in the claim or in the written description of the instant application. A person having ordinary skill in the art would be unable to understand the scope of the invention without the process of carrying out these limitations.

Parentheses appear in claim 2 line 3, claim 5 lines 3, 4, 7 and 10, and claim 6 lines 3, 4, 11, 12, and 13. It is unclear if the text within the parentheses is a limitation to the claim, or is an aside to the claim. Therefore, the parentheses must be removed to make the claim clear.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely

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exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 2 recites the broad recitation “elongation break of at least 3%”, and the claim also recites “preferably greater than 4%, in particular greater than 5%” which is the narrower statement of the range/limitation. For the purpose of further examination, at least 3% is considered.

Claim 3 recites the broad recitation “bringing into contact”, and the claim also recites “preferably an application of synthetic resin onto the gel coat” which is the narrower statement of the range/limitation. For the purpose of further examination, it is assumed that it is brought into contact.

Claim 4 recites the broad recitation “one or several reinforcing materials”, and the claim also recites “glass fiber fabric and/or glass fiber nonwoven and plastic fiber fabric or carbon fiber bonded fabric are preferred” which is the narrower statement of the range/limitation. For the purpose of further examination, one or several reinforcing materials are considered.

Claim 4 also recites the broad recitation “synthetic resin”, and the claim also recites “the synthetic resin used is especially preferably a prepreg in particular an epoxy resin prepreg with glass fiber fabric and/or glass fiber nonwoven or an injection resin” which is the narrower statement of the range/limitation. For the purpose of further examination, a synthetic resin is considered.

Claim 6 recites the broad recitation "change delta E of at most 50", and the claim also recites "preferably at most 45, in particular at most 40, such as at most 30" which is the narrower statement of the range/limitation. For the purpose of further examination, at most 50 is considered.

Claim 7 recites the broad recitation "methylenebis(aniline)", and the claim also recites "in particular a 4,4'-methylenebis (2,6-dialkyl-aniline)" which is the narrower statement of the range/limitation. For the purpose of further examination, methylenebis(aniline) is considered.

Claim 9 recites the broad recitation "range from 0.1 to 20 wt. %", and the claim also recites "preferably 0.3 to 10 wt. %, more preferably 0.5 to 5 wt. %, and in particular 1 to 3 wt. %", which is the narrower statement of the range/limitation. For purpose of further examination, 0.1-20 wt. % is considered.

Claim 11 recites the broad recitation "lies in the range from 5 to 50 wt. %", and the claim also recites "preferably 10 to 45 wt. more preferably 20 to 40 wt. %, and in particular 30 to 35 wt. %" which is the narrower statement of the range/limitation. For the purpose of further examination, 5-50 wt. % is considered.

Claim 12 recites the broad recitation "lies in the range from 6 to 15", and the claim also recites more "preferably in the range from 9 to 11 mol hydroxyl groups per kg of low molecular weight polyol" which is the narrower statement of the range/limitation. For the purpose of further examination, 6-15 is considered.

Claim 15 recites the broad recitation "hydroxyl group concentration of 1 to 4.99", and the claim also recites "preferably 2 to 4, in particular 2.5 to 3.8 mol hydroxyl groups

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per kg of higher molecular weight polyol” which is the narrower statement of the range/limitation. For the purpose of further examination, 1-4.99 is considered.

Claim 16 recites the broad recitation “lies in the range from 97 to 30 wt. %”, and the claim also recites “preferably 90 to 40 wt. %, more preferably 80 to 45 wt. % and in particular 70 to 50 wt. %” which is the narrower statement of the range/limitation. For the purpose of further examination, 97-30 wt. % is considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosenberg et al. (U.S. Pat. 6,046,297).

Regarding claims 1, 3, 4, 12, 15: Rosenberg et al. teaches a polyol component comprising a low molecular weight polyol (col. 4 lines 32-39), such as tetraethylene glycol (col. 4 line 37), which has a calculated molecular weight of 194 g/mol and a calculated hydroxyl group concentration of 10.3 mol OH/kg polyol., which fall within the claimed ranges. Also taught is a high molecular weight polyol (col. 3 lines 60-67) of the general formula $\text{HO}(\text{RO})_n\text{H}$ wherein R is an alkylene radical (col. 4 lines 1-9). This formula shows there are 2 hydroxyl groups, and with the molecular weight given to be

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500-3000 (col. 3 line 63), the calculated hydroxyl group concentration is 0.67-4 mol OH/kg polyol, which overlap the claimed ranges. Further, a diisocyanate (col. 3 line 38) is disclosed, which is a polyisocyanate. Rosenberg et al. further teaches 4,4'-methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a light resistant aromatic amine.

Regarding claim 2: While Rosenberg et al. does not directly teach that the gel coat at 23°C displays an elongation at break (measured as per DIN EN ISO 527) of at least 3%, since all of the components are present in the composition it is inherent that the composition would have these properties. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claims 5, 6, 7, and 8: Rosenberg et al. teaches 4,4'-methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a 4,4'-methylenebis (2,6-dialkyl-aniline). As evidenced by paragraphs 60-63 of the Pre-Grant Publication of the instant application, this particular aromatic amine when subjected to the limitations found in claims 5 and 6 of the instant application inherently gives the desired gel time and color shade change. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate

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disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 13: Rosenberg et al. teaches a low molecular weight polyol which is tetraethylene glycol (col. 4 line 37), which is a polyether polyol.

Regarding claim 14: Rosenberg et al. teaches the high molecular weight polyol can be a polyether polyol or a polyester polyol (col. 3 lines 60-61).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Pat. 6,046,297) as applied to claim 1 above.

Regarding claim 9: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the aromatic amine in the polyol component. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. See *In re Aller*, 105 USPQ 233 and MPEP 2144.05. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the aromatic amine and would have been motivated

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to do so for such desirable properties as completely reacted TDI monomers, as evidenced by Rosenberg et al. (col. 2 lines 8-14) since they are toxic. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. See *In re Boesch and Slaney*, 205 USPQ 215.

Regarding claims 10 and 11: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the low molecular weight polyol. However, this is a result effective variable that can be optimized. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the low molecular weight polyol and would have been motivated to do so for such desirable properties as sufficient chain extending of the prepolymer to form a polyurethane elastomer to form an easily applicable polyurethane elastomer with the desired viscosity.

Regarding claim 16: Rosenberg et al. teaches the basic claimed composition as set forth above. Not disclosed is the amount of the high molecular weight polyol. However, this is a result effective variable that can be optimized. At the time of the invention a person having ordinary skill in the art would have found it obvious to optimize the amount of the high molecular weight polyol and would have been motivated to do so for such desirable properties as sufficient strength in the cured product.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sondhe et al. (U.S. Pat. 5,340,652) in view of Rosenberg et al. (U.S. Pat. 6,046,297).

Regarding claims 17 and 18: Sondhe et al. teaches mixing (col. 13 line 31) a composition comprising an aromatic amine (col. 3 line 3), and a polyol component and a polyisocyanate component (abstract). Sondhe et al. also teaches that upon mixing, the urethane system will immediately commence reaction (col. 13 lines 33-35), therefore it is at least partially cured. Also disclosed is application to an epoxy, which is not fully cured (col. 3 lines 59-62).

Not disclosed is the exact composition of the instant application. However, Rosenberg et al. teaches a composition comprising a low molecular weight polyol (col. 4 lines 32-39), such as tetraethylene glycol (col. 4 line 37), which has a calculated molecular weight of 194 g/mol and a calculated hydroxyl group concentration of 10.3 mol OH/kg polyol., which fall within the claimed ranges. Also taught is a high molecular weight polyol (col. 3 lines 60-67) of the general formula $\text{HO}(\text{RO})_n\text{H}$ wherein R is an alkylene radical (col. 4 lines 1-9). This formula shows there are 2 hydroxyl groups, and with the molecular weight given to be 500-3000 (col. 3 line 63), the calculated hydroxyl group concentration is 0.67-4 mol OH/kg polyol, which overlap the claimed ranges. Further, a diisocyanate (col. 3 line 38) is disclosed, which is a polyisocyanate. Rosenberg et al. further teaches 4,4'-methylene-bis-(3-chloro-2,6-diethylaniline) (MCDEA) (col. 1 line 64 and col. 5 line 63), which is a light resistant aromatic amine.

Sondhe et al. and Rosenberg et al. are combinable because they are both concerned with the same field of endeavor, namely polyurethane compositions cured

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with aromatic amines. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Rosenberg et al. with the process of Sondhe et al. and would have been motivated to do so for such desirable properties as longer pour life, reduced tendency to crack, and reduced presence of toxic free toluene diisocyanate monomers, as evidenced by Rosenberg et al. (col. 1 lines 14-16).

The process of the above combination would implicitly yield a synthetic resin composite material.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sondhe et al. (U.S. Pat. 5,340,652) in view of Rosenberg et al. (U.S. Pat. 6,046,297) as applied to claims 17 and 18 above and in further view of Hertel et al. (U.S. Pat. 5,486,096).

Regarding claim 19: Sondhe et al. does not teach the material as a wind vane or a part thereof. However, Hertel et al. teaches an airfoil/wind vane (col. 1 line 9) which has an epoxy cured matrix composite substrate coated with polyurethane (col. 2 lines 5-15). Sondhe et al. and Hertel et al. are combinable because they are both concerned with the same field of endeavor, namely polyurethane compositions on epoxy substrates. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the application of Hertel et al. with the process of Sondhe et al. and would have been motivated to do so for such desirable properties as increased coating strength and erosion resistance, as evidenced by Hertel et al. (col. 1 lines 35-40) and Sondhe et al. (col. 3 lines 54-56).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGAN ARNBERG whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James J. Seidleck/

Supervisory Patent Examiner, Art Unit 1796

/M. A./
Examiner, Art Unit 1796

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